

Syllabus for AAEC 4610, Applied Econometrics
Spring Semester, 2011

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Course Homepage: www.georgiastats.uga.edu/c4610.html

Time: Lecture: 12:20-1:10, M, W, F
Lab: 12:20-2:15 M or W

Location: Lecture: Room 212, Conner Hall
Lab: Room 202, Conner Hall

Office Hours: 9:00 - 12:00

Course Description:

Basic econometric analysis, including simple and multiple regression analysis, hypothesis testing, model selection, and data collection techniques. Particular attention will be paid to the assumptions of regression, and the diagnostic and corrective procedures that are used when the assumptions are violated.

Course Objectives:

1. To apply economic and statistical theory in the analysis of real life problems.
2. Give students experience in using computers to build, manipulate and analyze data sets.
3. To understand the power and limitations of econometric analysis.

Textbook Required: Principles of Econometrics (3rd ed) Hill, Griffiths and Lim. New York: Wiley. 2009.

Class Attendance Policy: The current *Undergraduate Bulletin* says:

"Students are expected to attend classes regularly. A student who incurs an excessive number of absences may be withdrawn from a class at the discretion of the professor."

In this class, five unexcused absences is cause for withdrawal. The Health Center will give you an excuse form for sickness. Prior to March 24, you will receive a W, and after that you will get a WF. Attendance for quizzes and exams is not optional and no make-ups are given unless you have a doctor's note about a medical problem or emergency.

<u>Grading:</u>	10 problem sets (2 points each)	20 points
	First quiz	5 points
	First exam	15 points
	Second quiz	5 points
	Second Exam	15 points
	Term Paper	25 points
	Final exam	<u>15 points</u>
		100

The problem sets are intended to give you experience with real-world data analysis problems. You will answer questions that have practical importance to potential employers, and the exam questions are structured the same way. You can complete the problem sets with your friends or on your own. But be aware that the data set you analyze will be unique, and your answers will be different from your classmates. This is to encourage you in independent thinking.

The dates for all exams will be announced one week ahead of time. Problem sets will be worked on during the weekly microcomputer lab sessions.

Progress on your term paper will proceed on a set schedule throughout the semester. The paper will be eight pages long and contain references. Five extra credit points are given to students who take the initiative to use more advanced econometric methods than are presented in this class. These more advanced methods are all described in the textbook.

Grading: A > 93; A- 90-93; B+ 87-90; B 83-87; B- 80-83;
 C+ 77-80; C 70-77; C- 65-70; D 60-65; F < 60

Academic dishonesty will not be tolerated in this class. Students are expected to be familiar with University regulations in *A Culture of Honesty* found at <http://www.uga.edu/~vpaa> Ignorance of the regulations is not a defense against a charge of dishonesty.

Final Exam: We will follow the official date preset by the University.

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Course Outline and Reading

- A. Introduction (read pp. 1-9 and Ch. 1 in Hill, Griffiths and Judge)
 - 1. Definition and role of econometrics
 - 2. Building econometric models and their role
 - 3. The relevance of stochastic disturbance terms in a statistical model
 - 4. Brief introduction of the contents of the course
 - 5. Mean, variance, covariance and correlation

- B. Simple Linear Regression (Chapters 3 and 4)
 - 1. The regression linear function
 - 2. The error term
 - 3. Method of least squares
 - 4. Assumptions involved
 - 5. Estimators and their properties

- C. Inference in the Simple Regression Model (Chapter 5 and 6)
 - 1. Hypothesis testing
 - 2. Confidence intervals
 - 3. Analysis of variance (ANOVA) table
 - 4. Problems of functional form

- D. Multiple Regression Model (Chapter 7 and 8)
 - 1. Specification of the model
 - 2. Hypothesis testing
 - 3. F-tests
 - 4. Model specification problems
 - 4. Multicollinearity

- E. Topics in Regression Analysis
 - 1. Regression with dummy variables (Ch.9)
 - 2. Heteroscedasticity (Ch.11)
 - 3. Autocorrelation (Ch. 12)
 - 4. Dummy dependent variable models (Ch. 17)
 - 5. Autoregressive and distributed lag models (Ch. 15)